MINUTES OF THE SIXTH ECORISK ADVISORY BOARD MEETING
NAVY INSTALLATION RESTORATION PROGRAM
NAVAL EDUCATION AND TRAINING CENTER (NETC)
NEWPORT, RHODE ISLAND

January 17, 1996

BROWN & ROOT ENVIRONMENTAL
CONTRACT NO. N62472-90-D-1298
CONTRACT TASK ORDER NO. 0173

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MINUTES OF THE FIFTH ECORISK ADVISORY BOARD MEETING
JANUARY 17, 1996

The sixth meeting of the Ecorisk Advisory Board for Naval Education and Training Center sites was held in Building 1 of the Naval Education and Training Center in Newport, Rhode Island, on January 17, 1996. The meeting was held in order to: discuss outstanding issues following the responses to regulatory comments on the draft marine ecological risk assessment (ERA) report for McAllister Point Landfill (MPLF); present the results from preliminary studies related to the Old Fire Fighting Training Area (OFFTA) and resolve pending issues for the finalization of the OFFTA work plan for the marine ERA; and explain changes to the off-shore sampling plan for Derecktor Shipyard.

The minutes of the meeting are included below, followed by three attachments: Attachment A presents a list of meeting attendants; Attachment B presents the meeting agenda, handouts, and proposed table in response to EPA's comment 39; and Attachment C presents a draft addendum letter to the Final "Master" Work Plan for Narragansett Bay Ecorisk and Monitoring for Navy Sites (Note: The addendum letter was prepared based on specific agreements reached during the meeting). The main focus of this meeting minutes is on presenting the issues on which consensus was reached after general discussion.

I INTRODUCTORY REMARKS

At approximately 10:20 am, Bob Krivinskas (Navy) started the meeting by referring to the agenda and stating the purpose of the meeting. Mr. Krivinskas then requested opening remarks from the regulators on the strategy to follow regarding the MPLF draft ERA report; Mr. Krivinskas indicated that following the regulator's remarks, Simeon Hahn (Navy) would express the Navy's position.

II COMMENTS TO THE McALLISTER POINT LANDFILL REPORT

Paul Kulpa (RI DEM) indicated that the RI DEM would not be interested in further polishing the report, but rather in working towards agreeing on a remedial action for the site. Mr. Kulpa said that the RI DEM would be interested on having the technical staff discuss the possibility of dredging the contaminated sediments and placing them in the landfill before the construction of the cap.

Kymberlee Keckler (EPA) said the EPA echoed the position of the RI DEM regarding a remedial action for the site, and said that the opportunity to dispose of dredged sediments at the landfill should be used since the cap has not been constructed yet.

Ken Finkelstein (NOAA) indicated that he would also speak for the US Fish and Wildlife Service representative, who was unable to attend the meeting. Mr. Finkelstein said that NOAA and the US FWS are interested on the implementation of an appropriate remedial action for the site to protect the natural resources. Mr. Finkelstein indicated that the extensive work conducted by the Navy for MPLF was appreciated, and recognized that numerous regulatory comments had inevitably been generated due to the vast amount of work.

Simeon Hahn (Navy) indicated that the Navy echoed the RI DEM's position with regards to proceeding with the work towards a remedial action and that further polishing the report would not change the conclusions presented in it. Mr. Hahn indicated that the Navy would be willing to revise the Final WP if such revisions would improve future ERA reports. Mr. Hahn called attention to the fact that the MPLF ERA report does not address remedial action decisions and was not meant to do so.

Bob Krivinskas (Navy) then asked Dr. Greg Tracey (SAIC) to initiate the discussion on the outstanding issues on the MPLF report.

Dr. Tracey (SAIC) distributed a chart (see Attachment B) summarizing the outstanding issues following the response to EPA's comments on the MPLF report. Dr. Tracey indicated that the comment numbers identified in the chart corresponded to the numbers used in the letter from K. Keckler, EPA, to R. Krivinskas, Navy, dated 12/28/95. In addition, Dr. Tracey indicated to the RI DEM's representatives that outstanding State issues, if any, would also be addressed.

Dr. Tracey (SAIC) described the way in which reference station data were used in the ERA for MPLF, indicating that such use had been described in the "Master" Work Plan and had been presented accordingly in the ERA report for the site. Dr. Tracey then presented rationale to support the manner in which the reference station data had been used.

Susan Svirsky (EPA) indicated that Superfund Region 1 does not accept the use of reference data as currently described in the "Master" Work Plan and presented in the report. Ms. Svirsky indicated that she had overlooked the current deficiency in the "Master" Work Plan during her review of the draft final version, and said this was because she had considered the use of reference data to be appropriate as explained during previous presentations at EAB meetings, but that the final "Master" Work Plan was not in agreement with those presentations.

Two issues were identified regarding the use of reference data in the ERA: 1) generation of hazard quotients (HQ) based on reference data as part of the selection of contaminants of concern (COCs); and 2) quantitative use of the reference data in the risk characterization (i.e., "incremental risk" approach). Kymberlee Keckler (EPA) indicated that EPA agreed with the conclusions of the report and that the supporting analytical data was fine; however, the presentation of the information (particularly in relation to the selection of COCs and the use of reference station data) is not in the traditional format used in EPA Region 1 and, therefore, the report should be revised. Cornell Rosiu (CDM) provided the Navy with a copy of an example table (see Attachment B) that identifies the pertinent information that should be included in the selection of COCs and the format in which it should be presented.

As a result of the discussion, consensus was reached on the following:

- The format exemplified in the table provided by Cornell Rosiu (CDM) will be used to present the supporting information for the selection of COCs.

- The parameter of 5% frequency of detection will be used as one of the tools in the process of selection of COCs. Those contaminants detected in 5% or more of the sampling stations will be further considered in the selection of COCs.

- Comparisons between site data and reference station data will not be presented as HQs in the table of selection of COCs; such comparisons will only be characterized qualitatively as site values being "above" or "below" a certain reference threshold (Note: for MPLF, use of 70% of the reference station value as the threshold was approved by Susan Svirsky (EPA); however, future ERAs shall consider the full reference station value as the threshold to be exceeded).

- Screening of COCs based on comparisons of site data against reference station data will only be carried out for inorganic contaminants; such screening tool will not be applied to organic (anthropogenic) contaminants or, in general, to contaminants known to be highly toxic or persistent, and those that have a pronounced tendency to bioaccumulate/biomagnify.

- An additional column will be added to the table of selection of COCs to identify the final determination of the selection process.

- The quantitative use of reference station data will be eliminated from the Risk Characterization section of the ERA. Reference station data will only be used in qualitative discussions of the risk characterization results; such discussions will be included in a subsection at the end of the Risk Characterization section (Dr. Tracey (SAIC) proposed the title of such subsection to be "Risk Characterization in the Context of Reference Station Data").

- The previously described consensus points will be included in an addendum letter to be part of the Final "Master" Work Plan for Narragansett Bay Ecorisk and Monitoring for Navy Sites" (see Attachment C). The Navy indicated that the addendum letter will constitute the revision of the "Master" Work Plan necessary to conform to regulator requirements for future efforts.

After a recess in the meeting, Dr. Tracey (SAIC) initiated the discussion of pending issues related to the food chain modeling used in avian predator evaluations. Referring to EPA's comment 7, Dr. Tracey explained the equation used for estimating the dose of COC to the avian predator, which is presented in the ERA report and the work plan.

Susan Svirsky (EPA) and Cornell Rosiu (CDM) asked Dr. Tracey (SAIC) if whether the model took into consideration exposure routes other than food ingestion (i.e., ingestion of water and sediments).

Dr. Tracey (SAIC) indicated that the model only considered food ingestion as the route of exposure, as was presented in the final work plan. Agreement was expressed by Ms. Svirsky (EPA) and Mr. Rosiu (CDM) in that the model was appropriate as presented.

Referring to EPA's comment 23, Dr. Tracey (SAIC) indicated that species-specific data will be used when modeling for avian predators other than the herring gull. Dr. Tracey pointed out that one omnivorous and one piscivorous avian species will be considered as target receptors for the modeling, in order to estimate the potential exposure associated with the two different exposure scenarios. Consensus was expressed regarding this approach.

Referring to EPA's comments 27 and 29, Dr. Tracey (SAIC) proposed to use the toxicity reference values (TRVs) data for piscivorous birds generated for the Allen Harbor ERA.

Susan Svirsky (EPA) indicated that the proposed TRVs data generated for the Allen Harbor ERA (including all supporting information) should be presented to the EPA for review prior to being used in the MPLF ERA.

In reference to EPA's comments 28 and 37, Susan Svirsky (EPA) and Cornell Rosiu (CDM) asked Dr. Tracey (SAIC) why risks had not been calculated for fish species as receptors? Mr. Rosiu pointed out that fish such as the winter flounder had been included as part of the conceptual model for the ERA; however, no risks had been calculated for this species.

Dr. Tracey (SAIC) indicated that risk to fish receptors will be characterized in the ERA as described in the work plan. Dr. Tracey said the ERA will be revised to better address the potential effects to fish receptors in relation to the assessment endpoints proposed in the work plan, and pointed out that this will be accomplished by using recently reported benchmarks on toxic effects of contaminants present as tissue residues in fish (Note: Dr. Tracey indicated that the tissue residue benchmarks had been reported at the 1995 SETAC meeting).

In relation to the issues of toxicity due to ammonia, Dr. Tracey (SAIC) indicated that the report will be revised to emphasize that this compound may only be partially responsible for the toxicity to *Arbacia* detected at station NSB-3.

Ken Finkelstein (NOAA) pointed out that other contaminants are present at high concentrations at the NSB-3 station; thus, in addition to being a potential toxicity factor, ammonia also represents a source of uncertainty in the results and should be recognized as such in the ERA report.

Dr. Tracey (SAIC) agreed with Mr. Finkelstein and indicated that the issue of potential toxicity due to ammonia will be addressed as part of the analysis of uncertainty in the ERA report.

Bob Richardson (RI DEM) asked Dr. Tracey (SAIC) why 50% of the control value had been used as the threshold for the measurements of toxicity due to ammonia.

Dr. Tracey (SAIC) indicated that the threshold of 50% of the control had been selected based on the approach used by EPA-Narragansett for the studies on PCB toxicity conducted at the New Bedford Harbor site.

Referring to EPA's comment 12, Dr. Jim Quinn (GSO/URI) indicated that the text in the ERA report will be revised to address with greater clarity the comparison between the GSO data and the Battelle study data.

Referring to EPA's comment 18, Dr. Tracey (SAIC) indicated that the text in the ERA report will be revised to further emphasize that TBT is kept as a COC for the risk assessment, although the compound is not considered to be a "key risk driver".

Susan Svirsky (EPA) requested that more specific terminology be used in the report as oppose to just stating "TBT is not a key risk driver". Ms. Svirsky suggested text such as "...TBT is a minimal contributor to the overall risk...", and indicated that such statement should be supported by the new table of selection of COCs.

Dr. Tracey (SAIC) agreed with Ms. Svirsky. Consensus was reached regarding this issue.

After Dr. Tracey (SAIC) further explained the written response provided to EPA's comment 36, Susan Svirsky (EPA) emphasized that revisions to the report should clarify the interpretation of the biota condition index results and the conclusions derived from them. Bob Richardson (RI DEM) indicated that EPA's comment 36 was related to RI DEM's comment 4, and expressed agreement with the written response provided to this State comment.

Dr. Tracey (SAIC) agreed with Ms. Svirsky. Consensus was reached regarding this issue.

Referring to EPA's comment 39, Dr. Tracey (SAIC) further explained the written response provided to the comment, and proposed the use of a table (see Attachment B) in the ERA report to clarify the holding times for each of the tissue samples.

Consensus was reached regarding this issue.

Cornell Rosiu (CDM) revisited EPA's comment 33, and asked Dr. Tracey (SAIC) to further explain the response to the comment.

Dr. Tracey indicated that the sediment sample holding time for ammonia determinations had not exceeded 7 days, and referred back to the written response to the comment mentioning the results reported by Sarda and Burton (1995). Dr Tracey explained that ammonia determinations were made in accordance with the specifications of the analysis method, and that the analytical determinations of ammonia were conducted within hours of its extraction from the sediments.

Mr. Rosiu expressed agreement with the response to the comment.

Referring to EPA's comment 45, Dr. Tracey (SAIC) restated that the TRVs data for piscivorous birds generated for the Allen Harbor ERA will be used, and that the data will be presented to the EPA for review prior to its use in the MPLF ERA.

Referring to EPA's comment 20, Ken Finkelstein (NOAA) inquired about the use of the recently reported tissue residue data from the 1995 SETAC meeting. Specifically referring to Figure 6.3-4 of the report, Mr. Finkelstein requested BSAFs to be presented for both organic and inorganic contaminants. In addition, Mr. Finkelstein indicated that special attention should be given to stations with particularly high concentrations of contaminants, in order to establish possible relations between sediment concentrations and tissue residues.

> Dr. Tracey (SAIC) indicated that, in order to present a complete trophic exposure analysis, BSAFs for the inorganic contaminants will be included in the revised ERA. Dr. Tracey then explained that the recent tissue residue data will be used to interpret exposure, bioaccumulation and toxicity in fish receptors for both organic and inorganic COCs. Dr. Tracey pointed out that the impacts on fish species will be evaluated by comparing site-specific tissue concentrations to the reported critical tissue residue benchmarks.

Dr. Tracey (SAIC) asked the RI DEM representatives if there were any pending issues from the responses provided to the State comments.

Referring to RI DEM's comment 10, and in consideration that the ERA report will become a public document, Chris Deacutis (RI DEM) requested to eliminate the use of the term "pathogen" as presented in the written response to the comment and replace it with "potential pathogen indicator".

> Dr. Tracey (SAIC) agreed with Mr. Deacutis.

Referring to RI DEM's comment 5, Paul Kulpa and Bob Richardson (RI DEM) requested the inclusion of sampling depths and COC concentrations for each sampling station in the figures. It was indicated that the sampling depths in the figures should coincide with those presented in the tables of the report.

> Steve Parker (B&R Environmental) indicated that large scale maps will be prepared with text boxes describing sampling depths and COC concentrations. Mr. Parker asked the RI DEM representatives as to how many maps should be prepared, and which contaminants should be depicted in the maps.
>
> > *Mr. Kulpa indicated that the RI DEM was flexible regarding the number and format of the figures.*

Paul Kulpa (RI DEM) indicated that the RI DEM was satisfied with the responses received for the remaining comments from the State agency on the ERA report for MPLF.

Paul Kulpa (RI DEM) and Kymberlee Keckler (EPA) indicated that a focused feasibility study to address sediment dredging could be prepared simultaneously with revisions to the ERA report for MPLF. Ken Finkelstein (NOAA) expressed NOAA's interest in the dredging of the sediments that pose ecological risk.

> Brad Wheeler (NETC) indicated that this was an issue to be addressed at the RPMs/TRC meeting. Bob Krivinskas (Navy) indicated that the Navy did not want to agree to dredging of the sediments at this time, and that the people in charge of the structural design of the cap for the McAllister Point landfill had expressed their reluctance to placing dredged sediments under the cap.

Susan Svirsky (EPA) stated that, based on the results from the ERA, it is her opinion that dredging of sediments is necessary, and that the remaining issue is to then decide where to put the sediments.

Mr. Krivinskas indicated that, if dredging takes place, maybe the sediments will be placed under the cap for the Allen Harbor landfill.

It is the Navy's position that it is unknown if dredging is the appropriate remediation for this site because of the rocky substrate and sediment texture, and construction of the revetment over sample locations.

The meeting recessed for lunch from 1:30 to 2:05 pm.

III OLD FIRE FIGHTING TRAINING AREA

Steve Parker (B&R Environmental) indicated that the results from the preliminary studies conducted in Coasters Harbor would be presented by Beth Lacey (GSO/URI). Mr. Parker also indicated that these results would be the basis for resolving the pending issues for the finalization of the OFFTA work plan for the marine ERA.

Beth Lacey (GSO/URI) indicated that there is little information in the literature regarding dissolved oxygen (DO) concentrations in sediments. Ms. Lacey indicated that, in general, as DO decreases, hydrogen sulfide increases, and pointed out that Eh values in the sediments are affected by DO values in the water column and by seasonal variations. Ms. Lacey briefly explained the methods used in the studies conducted in Coasters Harbor and then presented the results.

Ms. Lacey indicated that there is a general trend to higher DO concentrations in the sediments at the mouth of the harbor in comparison to lower DO concentrations in the sediments inside the harbor. She also pointed out that sand and silt prevail at the mouth of the harbor, while finer (*i.e.*, clay) sediments are predominant towards the inner portions of the harbor.

Bob Richardson (RI DEM) asked Beth Lacey (GSO/URI) if the results she was reporting could be due to variations in sampling equipment and winter conditions, and if the trends could in reality be minimal or nonexistent?

Ms. Lacey responded that the trends were real, and not the result of seasonality or sampling equipment variations. This response was supported by Carol Gibson (GSO/URI).

Dr. Tracey (SAIC) used the results presented by Beth Lacey (GSO/URI) to review the previously proposed off-shore sampling locations for OFFTA. Dr. Tracey indicated that DO in the sediments appears to be a significant factor in Coasters Harbor and, therefore, proposed generating a transect of sampling locations into the harbor by realigning locations 21, 17 and 18, and by moving sample location 13 into the harbor at the southern end of the proposed transect.

Susan Svirsky (EPA) agreed with the redistribution of sample locations to achieve better representativeness in Coasters Harbor.

Ken Finkelstein (NOAA) indicated that the comparison of toxicity test results for stations at different positions within Coasters Harbor may involve a degree of uncertainty because of the differences in the DO and grain size of the sediments along the harbor.

Susan Svirsky (EPA) indicated that determinations of COD and BOD could be used to distinguish between the effect of the sewage plant (i.e., BOD) and that from OFFTA (i.e., COD) on the DO concentrations in the sediments.

Dr. Tracey (SAIC) indicated he would review published information on the available methodologies for BOD and COD determinations and on the interpretation of results.

Dr. Chris Kincaid (GSO/URI) explained the proposed hydrographic survey of Coasters Harbor using Doppler scanning, and indicated that the survey would characterize the magnitude of water flow (tidal and wind-related) and the circulation pattern in the area.

There were no questions or disagreements expressed on the proposed hydrographic survey.

Dr. Tracey (SAIC) indicated that based on the depth of the redox discontinuity, 1.5 to 2.0 cm appears to be the depth of the bioturbation layer in the sediments. Dr. Tracey then proposed to assume that resuspension of sediments represents the main exposure route and indicated that toxicity tests would be conducted on sediment elutriates.

Bob Richardson (RI DEM) agreed on using sediment elutriates due to the effects of storm scouring, boats, and historical accumulation.

Consensus was reached on using sediment elutriates for the toxicity tests.

Susan Svirsky (EPA) proposed to add one core sediment sample in the "soft sediments" encountered in Coasters Harbor (i.e., southeast from the site, near the northern bridge across the harbor).

Dr. Tracey (SAIC) agreed with the additional core sample. Bob Krivinskas (Navy) proposed to add the core sample to sampling station 13, which will be repositioned inside Coasters Harbor as previously discussed. Consensus was reached on this issue.

Ms. Svirsky indicated that the precise location of station 13 should be determined once the Doppler scanning results become available, so as to choose the location with greater depositional depth.

Dr. Tracey (SAIC) proposed using the sea urchin larval development test for toxicity determinations, and explained that this test appears to be more sensitive and has been reported to be more amenable for use with sediment elutriates.

After general discussion, consensus was reached on using the sea urchin larval development test for toxicity determinations on sediment elutriates.

Susan Svirsky (EPA) indicated that the rationale for the selection of sediment elutriates and the use of the larval development test should be presented in the ERA report.

Dr. Tracey (SAIC) proposed the sampling of sediments to be composite samples to a depth of 15 to 20 cm.

Consensus was expressed regarding sediment sampling depth.

Sheldon Pratt (GSO/URI) indicated that the surface water outfall into Coasters Harbor is through a marsh area that has been filled with ashes from a city incinerator.

Bob Richardson (RI DEM) suggested the use of aerial photos to better identify the location of the surface water discharge from the filled marsh area in order to select a potential sampling station.

After general discussion, consensus was reached in that the use of aerial photos would not be necessary since hydrographic survey data for the area will be available. EPA representatives emphasized their desire to have an additional sediment sample collected at the outfall location.

After discussion among the RPMs, and as requested by Kymberlee Keckler (EPA), submittal of a Draft Final version of Addendum C of the "Master" Work Plan will be necessary before submittal of the Final version. Bob Krivinskas (Navy) indicated that the Draft Final version of Addendum C will not be issued until the Navy receives concurrence from the regulators on the minutes from the sixth EAB meeting.

IV DERECKTOR SHIPYARD

Steve Parker (B&R Environmental) indicated that, as previously reported to the regulators, some changes had been necessary in the off-shore sampling plan for Derecktor Shipyard; Dr. Tracey (SAIC) then briefly explained the changes:

Fish sampling station 21 was moved northward towards the pier structure, since many traps were lost at the southern end of Coddington Cove. In addition, Dr. Tracey indicated that fish specimens were not found at sampling station 29.

Susan Svirsky (EPA) indicated that sampling station 29 represents a high concern area and, therefore, sampling should be repeated during the spring at this station to confirm if fish are present or not.

Consensus was reached on re-sampling station 29 in the spring.

A different species of hard shell clam (*Pitar morrhauna*) was collected at some stations due to the apparent absence of *Mercenaria mercenaria* clams.

There was no discussion on this point.

Dr. Tracey (SAIC) explained that the preliminary P450 test results for sampling station 36 had been within the range of control values; however, fish tissue availability for the test had been limited.

Ms. Svirsky (EPA) and Dr. Tracey agreed that station 36 should be re-sampled in the spring, since so far only one data point is available.

Bob Richardson (RI DEM) and Susan Svirsky (EPA) asked Dr. Tracey (SAIC) what had been the findings at the so called "dead zone".

Dr. Tracey indicated that mussels had been found. Dr. Chris Kincaid (GSO/URI) complemented by indicating that no net water circulation had been detected in the "dead zone", but just internal swirling.

There were no disagreements or further questions expressed on the information presented for Derecktor Shipyard.

The meeting adjourned at 3:45 pm.

ATTACHMENT A

LIST OF MEETING ATTENDANTS

EAB Meeting #6 1/17/96
List of attendees

Attendee	Affiliation / phone
Hector Laquitte	Brown & Root/HNUS - 508-658-7899
Stephen S. Parker	" " 508-658-7899
Grey Tracey	SAIC 401-782-1900
Ken Finkelstein	NOAA 617-223-5537
ROBERT KRIVINSKAS	NORTHDIV RPM 610 595-0567 X134
SHANNON BEHR	Northdiv Biologist " X183
Jim Lucas	GSO/URI 401-874-6219
Susan Svirsky	EPA (617) 573-9649
Mary Pothier	COM 617-252-8440
CORNELL ROSIC	COM 617-252-8221
Bob Richardson	RI DEM 401-277-6519 ext 7240
BRAD WHEELER	NETC 401-841-6375
Chris Deacutis	RIDEM NBP 401-277-3165 x 7270
Paul Kulpe	RIDEM 401-277-3872
Kymberlee Keckler	USEPA (617) 573-5777
Simeon P Hahn	NORTHDIV 610-595-0567 EXT 190
Carol Gibson	GSO/URI 401-874-6182
Beth Lacey	GSO/URI 401-874-6182
Chris Kincaid	GSO/URI 401 874 6571
Sheldon Pratt	GSO/URI 401-874 6699

ATTACHMENT B

MEETING AGENDA, HANDOUTS, AND PROPOSED TABLE IN RESPONSE TO EPA's COMMENT 39

NORTHNAVFACENGCOM CODE 1823
10 INDUSTRIAL HWY MAIL STOP 82
(610) 595-0567 X134 (FAX 595-0555)

Meeting Agenda
Ecorisk Advisory Board Meeting No. 6
NETC Newport
January 17, 1995

START TIME 10:00 AM

1. Introductory Remarks

2. Comments to the McAllister Point Report
   a. Outstanding issues following the responses to comments
   b. Due date for the Draft Final

3. Old Fire Fighting Training Area
   a. Results from preliminary sample collection and analysis
   b. Remaining details for finalization of ERA Work Plan Addendum C
      i. Anaerobic conditions in areas of the harbor
      ii. Larval development test vs sea urchin fertilization test
      iii. Sampling locations for OFFTA

4. Derecktor Shipyard (time permitting)
   a. Changes in clam sample stations
   b. Changes in fish sample stations, and limits of P450 tests

END TIME 4:00 PM

LUNCH BY CONSENSUS; SPORADIC BREAKS

Summary of Outstanding Issues on Responses to EPA Comments on McAllister Point Draft ERA (12/28/95 letter to R. Krinvinskas, USN RPM. from K. Keckler, USEPA RPM)

Issue Area	Comment Nos./ Issue.	Suggested Resolution
Use of Reference Data	1b; Use as benchmark 5; Use as "incremental risk" indicator 6; "Subsitution" for benchmarks. 10; Does not support DQO's for Project 16; Use for inorganic CoC selections 17; Use for uncertainty discussion 21; see 1b, above 35; HQ calculation method 44. see 1b, above	Risk Characterization Approach is supported by EPA Risk Assessment Forum.(EPA, 1993). Allow use in weight of evidence approach.
CoC Screening	1a, CoC Derivation Process 2, Follow TRC approach 3, see 2, above 4, reference/HQ mix 25 Clarity/Order of presentation	CoC selection process follows work Plan. Modify "HQ approach" to indicate simple exceedence, not extent; adjust headers accordingly. Modify Tables for Clarity.
Avian Predator Evaluations	7, details of food chain modeling 23, species-specific assessments 27, TRV data for piscivorous bird 28, piscine receptors 29, update TRV values 37, see 28, above	- described in Report and TRC, 1994 - need Species-specific TRVs - use EA (1996) data from NCBC -09. - not among target receptors - use EA (1996) data from NCBC-09. -
Ammonia Toxicity	14, CoC/NH4 effects at NSB-3 32, M3, NSB-3 as "significantly toxic" 33, NH4 stability/extraction/holding 48. Use of LC50 data to infer toxicity	Revise text to emphasize uncertainty as to cause of marginal Arbacia toxicity.
Trends/Values	12	- Discuss with EAB
TBT as CoC/Risk Driver	18	- Discuss with EAB
Biota CI Interpretation	36	- Discuss with EAB
Sampling Holding	39	- Discuss with EAB
Report Ommissions/ clarifications of text and Tables	43, undefined acronyms 46 reproduction errors	Redouble efforts to provide thorough technical/editorial review
Alternate Benchmarks	45; Use Oak Ridge benchmarks	- Adopt for Avian Predator Pathway.

Table 3-3
Data Summary and Comparisons to Benchmark Values
Cohansey River Sediment

Owens-Brockway Glass Containers, Inc., Bridgeton, New Jersey

cite source (e.g. NOAA GL)

Selection as COC (yes/no)

Analyte	Frequency of Detection # Detects	# Samples	%	Range of Concentrations Minimum	Maximum	Mean Concentration [b]	95% Upper Confidence Limit	Background Concentration [c]	Minimum Benchmark Value	95% UCL or Max Concentration [d] Exceeds Minimum Benchmark?	Exceeds Background?	Frequency of Detection > 5% ?
Volatile Organics (ug/kg)												
Methylene chloride	1	5	20%	580 U	710	431	+	330	427	YES	YES	YES
Semi-Volatile Organics (ug/kg)												
Acenaphthene	1	6	17%	42 J	42 J	230	+	ND (410)	7	YES	YES	YES
Anthracene	2	6	33%	64 J	110 J	200	+	ND (410)	47	YES	YES	YES
Benzo(a)anthracene	5	6	83%	35 J	520 J	271	+	ND (410)	75	YES	YES	YES
Benzo(a)pyrene	3	6	50%	160 J	450 J	267	389	ND (410)	89	YES	YES	YES
Benzo(b)fluoranthene	3	6	50%	140 J	470 J	262	418	ND (410)	3,200	no	YES	YES
Benzo(k)fluoranthene	3	6	50%	250 J	590 J	330	497	ND (410)	3,200	no	YES	YES
Bis(2-ethylhexyl) phthalate	1	1	100%	610	610	610	+	--	1,900	no	--	YES
Chrysene	5	6	83%	63 J	610 J	329	+	ND (410)	101	YES	YES	YES
Dibutyl phthalate	1	1	100%	510 J	510 J	510	+	--	5,100	no	--	YES
Fluoranthene	4	6	67%	290 J	1300	523	+	ND (410)	113	YES	YES	YES
Fluorene	1	6	17%	97 J	97 J	240	+	ND (410)	19	YES	YES	YES
Phenanthrene	4	6	67%	140 J	740	314	1734	ND (410)	87	YES	YES	YES
Pyrene	5	6	83%	87 J	770	401	+	ND (410)	153	YES	YES	YES
Inorganics (ug/kg)												
Arsenic	4	5	80%	1,100 U	21,700	10,570	+	ND (1000)	6,000	YES	YES	YES
Beryllium	3	5	60%	230 U	890	436	+	ND (250)	500	YES	YES	YES
Cadmium	4	10	40%	420 J	1,200 J	581	955	ND (500)	540	YES	YES	YES
Chromium	10	10	100%	4,300	83,000	35,900	+	24,531	26,000	YES	YES	YES
Copper	8	10	80%	2,900 U	57,000	24,905	+	4,421	16,000	YES	YES	YES
Lead	10	10	100%	3,200	881,000	140,220	+	6,186	30,240	YES	YES	YES
Mercury	7	10	70%	70 U	470	217	+	55	130	YES	YES	YES
Nickel	4	5	80%	2,100 U	41,500	15,910	+	ND (1900)	5,100	YES	YES	YES
Selenium	3	5	60%	570 U	3,400	1,542	+	ND (630)	920	YES	YES	YES
Zinc	10	10	100%	6,200	186,000	88,820	+	4,436	120,000	YES	YES	YES
Total Petroleum Hydrocarbons (ug/kg)												
TPH by IR	7	11	64%	23,000 U	3,500,000	735,045	+	ND (23000)		--	YES	YES

NOTES:
ND = Not Detected; J = estimated value; U = undetected; B = detected in blank
Sample quantitation limit (SQL) for non-detects is listed within parenthesis.
-- = Not Available
+ = 95%UCL is greater than Maximum Concentration
SHADING = Contaminant of Concern (COC) discussed in Section 4.0

[a] The range of concentration was obtained from data with sample IDs: Q-SD01 through Q-SD06, SD-3, SD-5, SD-7, SD-13, SD-14, and SD-18.
[b] Mean concentrations sometimes exceed maximums because 1/2 SQLs were used to calculate means.
[c] For sediment, background concentration is based on the following sample IDs: SD-18, Q-SD05, Q-SD05-A, Q-SD06-A, STORET Station Nos. 1412800 and 1413014. See Table 3-6 (Background Sediment) for further explanation.
[d] If 95% UCL is greater than the Maximum Concentration, as indicated with a "+", then Maximum Concentration is used to screen against background and benchmarks.

Table 1. Sample Collection/Storage Summary for Tissue Samples Collected and Analyzed for the NETC McAllister Point ERA.

Species	Location	Station	Treatment	Collection Date	Freeze Date
Mussels	NSB	1	ND	3/30/95	3/30/95
(BM)	NSB	1	DEP	3/30/95	3/31/95
	NSB	2	ND	3/30/95	3/30/95
	NSB	3	ND	3/30/95	3/30/95
	NSB	3	DEP	3/30/95	3/31/95
	NSB	5	ND	3/30/95	3/30/95
	NSB	5	DEP	3/28/95	3/29/95
Clams	MCL	9	ND	5/2/95	5/2/95
(HC)	MCL	10	ND	5/2/95	5/2/95
	MCL	10	DEP	5/2/95	5/4/95
	MCL	11	ND	5/2/95	5/2/95
	MCL	11	DEP	5/2/95	5/4/95
	MCL	12	ND	5/2/95	5/2/95
	MCL	12	DEP	5/2/95	5/4/95
	MCL	13	ND	5/9/95	5/9/95
	MCL	16	ND	5/9/95	5/9/95
	JCC	D1	ND	5/9/95	5/9/95
Lobsters	MCL	9	LM	5/9/95	5/10/95
(LOB)	MCL	9	LHEP	5/9/95	5/10/95
	MCL	10	LM	5/9/95	5/10/95
	MCL	10	LHEP	5/9/95	5/10/95
	MCL	13	LM	5/9/95	5/10/95
	MCL	13	LHEP	5/9/95	5/10/95
	MCL	14	LM	5/9/95	5/10/95
	MCL	14	LHEP	5/9/95	5/10/95
	JCC	D1	LM	5/30/95	5/31/95
	JCC	D1	LHEP	5/30/95	5/31/95

ATTACHMENT C

ADDENDUM LETTER TO THE FINAL "MASTER" WORK PLAN FOR NARRAGANSETT BAY ECORISK AND MONITORING FOR NAVY SITES

To: Members of the Ecorisk Advisory Board for Naval Education and Training Center Sites

Subject: Addendum Letter to the Final Work/Quality Assurance Project Plan for Narragansett Bay Ecorisk and Monitoring for Navy Sites

Date: February 1, 1996

This addendum letter presents modifications to the procedures described in the *Final Work/Quality Assurance Project Plan for Narragansett Bay Ecorisk and Monitoring for Navy Sites*, dated July 28, 1995. These modifications are based on agreements reached at the sixth meeting of the Ecorisk Advisory Board for Naval Education and Training Center sites, which was held in Building 1 of the Naval Education and Training Center in Newport, Rhode Island, on January 17, 1996. These modifications also apply to Addenda A, B and C of the *Final Work/Quality Assurance Project Plan* document. Following is a description of the modifications:

- The format exemplified in the table provided by Cornell Rosiu (CDM) at the sixth EAB meeting (see attached copy) will be used to present the supporting information for the selection of contaminants of concern (COCs).

- The parameter of 5% frequency of detection will be used as one of the tools in the process of selection of COCs. Those contaminants detected in 5% or more of the sampling stations will be further considered in the selection of COCs.

- Comparisons between site data and reference station data will not be presented as hazard quotients (HQs) in the table of selection of COCs; such comparisons will only be characterized qualitatively as site values being "above" or "below" a certain reference threshold. For McAllister Point Landfill, 70% of the reference station value will be used as the threshold. For Derecktor Shipyard and Old Fire Fighting Training Area, the full reference station value will represent the threshold to be exceeded.

- Screening of COCs based on comparisons of site data against reference station data will only be carried out for inorganic contaminants; such screening tool will not be applied to organic (anthropogenic) contaminants or, in general, to contaminants known to be highly toxic or persistent, and those that have a pronounced tendency to bioaccumulate/biomagnify.

- An additional column will be added to the table of selection of COCs to identify the final determination of the selection process.

- The quantitative use of reference station data will be eliminated from the Risk Characterization section of the ERA. Reference station data will only be used in qualitative discussions of the risk characterization results; such discussions will be included in a subsection at the end of the Risk Characterization section, and will be entitled "Risk Characterization in the Context of Reference Station Data".

The U.S. Navy requests the Ecorisk Advisory Board members to submit concurrence on the information presented in this letter by February 15, 1996. Please forward your correspondence to me at Northern Division.

Sincerely,

R. KRIVINSKAS
Remedial Project Manager